

1. A method of treating a subterranean zone penetrated by a well bore comprising the steps of:

(a) preparing or providing a viscous cross-linked aqueous treating fluid that comprises water, a xanthan biopolymer gelling agent and a combination cross-linker and delayed breaker for said xanthan biopolymer gelling agent;

(b) introducing said viscous cross-linked aqueous treating fluid into said subterranean zone; and

(c) allowing said viscous cross-linked aqueous treating fluid to break into a low viscosity fluid.

2. The method of claim 1 wherein said water in said treating fluid is selected from the group consisting of fresh water and salt water.

3. The method of claim 1 wherein said xanthan biopolymer gelling agent is present in said treating fluid in an amount in the range of from about 0.25% to about 1.5% by weight of water therein.

4. The method of claim 1 wherein said combination cross-linker and delayed breaker is a metaperiodic acid salt.

5. The method of claim 1 wherein said combination cross-linker and delayed breaker is selected from the group consisting of potassium metaperiodate, sodium metaperiodate, ammonium metaperiodate, calcium metaperiodate and lithium metaperiodate.

6. The method of claim 1 wherein said combination cross-linker and delayed breaker is potassium metaperiodate.

7. The method of claim 1 wherein said combination cross-linker and delayed breaker is present in said treating fluid in an amount in the range of from about 0.1% to about 1.5% by weight of said water therein.

8. A method of placing particulate gravel material in a subterranean zone penetrated by a well bore comprising the steps of:

(a) preparing or providing a viscous cross-linked aqueous carrier fluid that comprises water, a xanthan biopolymer gelling agent, a combination cross-linker and delayed breaker for said xanthan biopolymer gelling agent, and suspended particulate gravel material;

(b) introducing said viscous cross-linked aqueous carrier fluid into said subterranean zone; and

(c) allowing said viscous cross-linked aqueous carrier fluid to break into a low viscosity fluid whereby said particulate gravel material is deposited in said subterranean zone.

9. The method of claim 8 wherein said water in said carrier fluid is selected from the group consisting of fresh water and salt water.

10. The method of claim 8 wherein said xanthan biopolymer gelling agent is present in said carrier fluid in an amount in the range of from about 0.25% to about 1.5% by weight of water therein.

11. The method of claim 8 wherein said combination cross-linker and delayed breaker is a metaperiodic acid salt.

12. The method of claim 8 wherein said combination cross-linker and delayed breaker is selected from the group consisting of potassium metaperiodate, sodium metaperiodate, ammonium metaperiodate, calcium metaborate and lithium metaborate.

13. The method of claim 8 wherein said combination cross-linker and delayed breaker is potassium metaperiodate.

14. The method of claim 8 wherein said combination cross-linker and delayed breaker is present in said carrier fluid in an amount in the range of from about 0.1% to about 1.5% by weight of said water therein.

15. The method of claim 8 wherein said suspended particulate gravel material in said carrier fluid is selected from the group consisting of graded sand, bauxite, ceramic materials, glass materials, and polymer beads.

16. The method of claim 8 wherein said suspended particulate gravel material in said carrier fluid is graded sand.

17. The method of claim 8 wherein said suspended particulate gravel material is present in said carrier fluid in an amount in the range of from about 10% to about 250% by weight of water therein.

18. A method of fracturing a subterranean zone penetrated by a well bore and depositing particulate proppant material in the fractures formed comprising the steps of:

(a) preparing or providing a viscous cross-linked aqueous fracturing fluid that comprises water, a xanthan biopolymer gelling agent, a combination cross-linker and delayed breaker for said xanthan biopolymer gelling agent, and suspended particulate proppant material;

(b) introducing said viscous cross-linked aqueous fracturing fluid into said subterranean zone at a rate and pressure sufficient to fracture said subterranean zone; and

(c) allowing said viscous cross-linked aqueous fracturing fluid to break into a low viscosity fluid whereby said particulate proppant material is deposited in said fractures and said low viscosity fluid is recovered.

19. The method of claim 18 wherein said water in said fracturing fluid is selected from the group consisting of fresh water and salt water.

20. The method of claim 18 wherein said xanthan biopolymer gelling agent is present in said fracturing fluid in an amount in the range of from about 0.25% to about 1.5% by weight of water therein.

21. The method of claim 18 wherein said combination cross-linker and delayed breaker is a metaperiodic acid salt.

22. The method of claim 18 wherein said combination cross-linker and delayed breaker is selected from the group consisting of potassium metaperiodate, sodium metaperiodate, ammonium metaperiodate, calcium metaperiodate and lithium metaperiodate.

23. The method of claim 18 wherein said combination cross-linker and delayed breaker is potassium metaperiodate.

24. The method of claim 18 wherein said combination cross-linker and delayed breaker is present in said fracturing fluid in an amount in the range of from about 0.1% to about 1.5% by weight of said water therein.

25. The method of claim 18 wherein said suspended particulate proppant material in said fracturing fluid is selected from the group consisting of graded sand, bauxite, ceramic materials, glass materials, and polymer beads.

26. The method of claim 18 wherein said suspended particulate proppant material in said fracturing fluid is graded sand.

27. The method of claim 18 wherein said suspended particulate proppant material is present in said fracturing fluid in an amount in the range of from about 10% to about 250% by weight of water therein.

28. A viscous cross-linked aqueous treating fluid for treating subterranean zones comprising:

water;

a xanthan biopolymer gelling agent; and

a combination cross-linker and delayed breaker for said xanthan biopolymer gelling agent.

29. The treating fluid of claim 28 wherein said water in said treating fluid is selected from the group consisting of fresh water and salt water.

30. The treating fluid of claim 28 wherein said xanthan biopolymer gelling agent is present in said treating fluid in an amount in the range of from about 0.25% to about 1.5% by weight of water therein.

31. The treating fluid of claim 28 wherein said combination cross-linker and delayed breaker is a metaperiodic acid salt.

32. The treating fluid of claim 28 wherein said combination cross-linker and delayed breaker is selected from the group consisting of potassium metaperiodate, sodium metaperiodate, ammonium metaperiodate, calcium metaperiodate and lithium metaborate.

33. The treating fluid of claim 28 wherein said combination cross-linker and delayed breaker is potassium metaperiodate.

34. The treating fluid of claim 28 wherein said combination cross-linker and delayed breaker is present in said treating fluid in an amount in the range of from about 0.25% to about 1.5% by weight of said water therein.

35. The treating fluid of claim 28 which further comprises suspended particulate gravel material.

36. The treating fluid of claim 35 wherein said suspended particulate gravel material in said treating fluid is selected from the group consisting of graded sand, bauxite, ceramic materials, glass materials, and polymer beads.

37. The treating fluid of claim 35 wherein said suspended particulate gravel material in said treating fluid is graded sand.

38. The treating fluid of claim 35 wherein said suspended particulate gravel material is present in said treating fluid in an amount in the range of from about 10% to about 250% by weight of water therein.

39. The treating fluid of claim 28 which further comprises suspended particulate proppant material.

40. The treating fluid of claim 39 wherein said suspended particulate proppant material in said treating fluid is selected from the group consisting of graded sand, bauxite, ceramic materials, glass materials, and polymer beads.

41. The treating fluid of claim 39 wherein said suspended particulate proppant material in said treating fluid is graded sand.

42. The treating fluid of claim 39 wherein said suspended particulate proppant material is present in said treating fluid in an amount in the range of from about 10% to about 250% by weight of water therein.